The heat sink modular assembly of the present invention is a top element used in combination with chip packages (referred to in the claims as "a semiconductor device"), such as a single chip package, a multilayer ceramic module or multiple chips. The chip packages are mounted on a printed wiring board. The supporting board mentioned in the specification is a printed wiring board (the conventional circuit board like the motherboard in PC) and the heat sink modular assembly is secured on this supporting board.

Since the heat sink modular assembly of the present invention has unique finger portions at the end of the support fin members, the assembly can accommodate larger than usual height variations among different semiconductor chip packages on the support printed wiring board. The chip packages can be multichip ceramic package, a bare chip plastic package wherein the chip is exposed or even a bare chip directly soldered on the board.

One objective of the present invention is to have larger displacement in the direction perpendicular to the surface of the semiconductor chips and flexibility to accommodating the larger than usual variation of heights and coplanarities among those chips on the board. This is accomplished through the unique finger portions at the end of the fins, and the different lengths of the arms of the supporting fins..

A second objective of the present invention is to have a continuous heat conducting path from the finger portion to the fin body with its unique structure of the fins and beams. This is different than the current approach in which heat coming from the semiconductor chip conducts to the heat sink base first then to the fins where the interface between the fins and the base will impede the heat flow.

The Examiner has rejected Claims 10 and 11 under 35 U.S.C. §112 first paragraph "...as failing to comply with the written description requirement." Applicant has cancelled these two claims and substituted new Claims 12 - 20 which are accurate and supported in the specification, at page 4, lines 1 – 7. These claims cover a variety of situations where there are multiple chips, multiple shapes and multiple mountings on a common carrier as

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described on page 1 of the specification page 1, lines 9 – 10, 14 – 16, and page 2, lines 19 -20. The invention relates to semiconductor chip assemblies, (page 1, line 3). Applicants have used the term. Applicants submit that the use of the semiconductor package defined in Claims 12 – 20 is supported in the specification at page 4, lines 2 – 4 which states: "*...contact to conductors of a wiring bearing area member, such as a printed wiring board, a multilayer ceramic module, or multiple chips on a supporting board...*"

In the event that this amendment does not result in allowance of all such claims, the undersigned attorney respectfully requests a telephone interview at the Examiner's earliest convenience.

MPEP 713.01 states as follows:

> *Where the response to a first complete action includes a request for an interview or a telephone consultation to be initiated by the examiner, ...the Examiner as soon as he or she has considered the effect of the response, should grant such request if it appears that the interview would result in expediting the case to a final action.*

Respectfully submitted,

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I certify that this correspondence is being telefaxed to the United States Postal Service at (571) 273-8300 on the date shown below addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

September 23, 2009
Date

Thomas A. Beck